

METHOD AND APPARATUS FOR LOGGING FILE SYSTEM OPERATIONS

ABSTRACT

One embodiment of the present invention provides a system that logs file system operations. Upon receiving a request to perform a file system operation, the system makes a call to an underlying file system to perform the file system operation. The system also logs the file system operation to a log on a log device to facilitate recovery of the file system operation in the event of a system failure before the file system operation is committed to non-volatile storage. In a variation on this embodiment, logging the file system operation involves storing an identifier for the file system operation to the log device. In one embodiment of the present invention, the system periodically commits the log to the underlying file system. This is accomplished by freezing ongoing activity on a file system, and making a call to the underlying file system to flush memory buffers to non-volatile storage. This causes outstanding file system operations to be committed to non-volatile storage. Next, the system removes outstanding file system operations from the log, and unfreezes the ongoing activity on the file system.